

Smart City Solutions

Internet of Things



Countries across the globe are developing smart city strategies to drive economic growth and improve public services by enabling local area development and harnessing cutting-edge technologies for better outcomes. Smart cities hold the promise of improved quality of life and better employment opportunities for citizens. Smart utility systems will enable cities to use technology, data, and information to improve their infrastructure and services. Increased focus on smart energy and water management, smart transportation, and e-governance and citizen services initiatives can help enhance public satisfaction, while keeping the overall running costs low.

Tata Consultancy Services' (TCS) Smart City Engineering Services enable city administrations to design and deploy smart water and power services, and ensure efficient transportation management effortlessly. With our services, you can minimize utilities' downtime, enhance citizen services, and reduce costs through superior public infrastructure management and streamlined energy operations.

Overview

Rapidly urbanizing areas struggle with energy and water supply, and effective waste management, leading to suboptimal living conditions for citizens. Poor management of public assets such as streetlights often result in excessive wastage of energy. Ineffective water metering can hamper usage visibility, while leaks can go unnoticed in the absence of real-time monitors, causing water shortage. Similarly, under-utilization of public transportation as well as poor traffic management can adversely affect commuter experience. There is a strong need to bridge gaps in governance that can address these challenges and foster better collaboration between public service agencies.

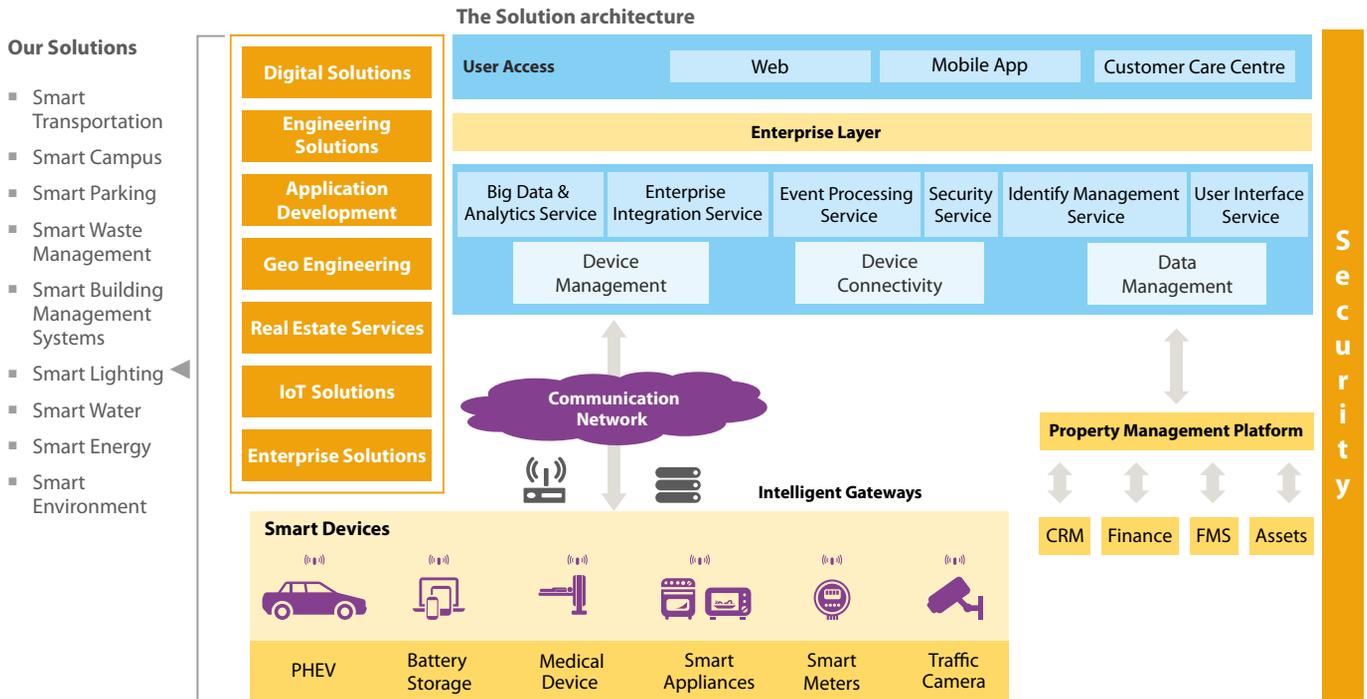
TCS' Smart City Engineering Services leverage digital technologies such as the Internet of Things (IoT), mobility, and analytics to help create smarter, more connected, and safer cities. Our offerings assist in streamlining operations across city services like utilities, transportation, and e-governance, enhancing citizen experience. We combine our proven experience across application development, geo engineering, enterprise technology, and real estate services to create solutions that simplify smart device management, connectivity, and associated data management. We also build end user smart city applications to boost customer service, accelerate request resolution, and minimize utility downtime, while optimizing operational cost.

Our Solution

TCS provides engineering services for:

- **Smart Transportation** – Industry-leading end-to-end transportation solution for vehicle tracking, dispatching, monitoring, parking area management, passenger information display, optimal routing, drivers' behavior analysis and optimal fuel consumption
- **Smart Campus** - Indoor navigation in three-dimensional immersive view to find places of interest, optimal routes, emergency exits and aids to indoor parking
- **Smart Parking** – Cost-effective parking solution using copper loops at the gate to detect entry/exit of vehicles, combined with gateways and IoT to provide real-time information to the command center
- **Smart Waste Management** - Real time tracking of waste dumpers, combined with a billing management system for accurate payment. Smart bins enabling automatic messaging for bin status and pick-up
- **Smart Building Management Systems** – Integrated solution for heating, ventilation, and air conditioning (HVAC) as well as lighting, access control, and surveillance
- **Smart Lighting** - Centralized command center to manage city lights
- **Smart Water** - Water distribution monitoring and control through IoT ecosystems and superior data analytics and visualization
- **Smart Energy** – Our solution leverages SCADA (supervisory control and data acquisition) systems and IoT to collect, analyze and disseminate energy and asset related real-time data.
- **Smart Environment** - Management solution to monitor pollution levels at specific points

An Overview of TCS' Smart City Solutions



Benefits

With TCS' Smart City Engineering Services, you can reap the following benefits:



Higher citizen satisfaction: Mandate round-the-clock supply of utilities, and provide high-quality customer service with minimum request processing time. Improve public transportation efficiency and effectiveness with greater visibility into expected times of arrivals and departures, routes and traffic, thereby ensuring hassle-free travel.



Efficient operations: Detect water leaks in a quick and efficient manner and minimize theft. Curtail energy losses by installing intelligent solutions such as smart street lighting, and monitor consumption in real-time.



Better governance: Strengthen your relationship with citizens through effective dialogue, and catalyze better coordination between public services agencies.

The TCS Advantage

TCS brings the following differentiators to the table:

- **Research-led innovation:** Our network of technology labs and R&D centers collaborate with leading universities to drive innovation in the field of utilities management. For instance, TCS has setup an iCity Lab in Singapore, in collaboration with the Singapore Management University, to design an intelligent water management solution.
- **Focus on engineering:** TCS' consultants have deep domain knowledge and extensive experience in providing engineering and industrial services. We have proven expertise in designing and implementing solutions based on the asset management maturity model approach.
- **Strategic partnerships:** We have partnered with industry-leading enterprises and original equipment manufacturers (OEMs) to provide you access to the latest technologies, tools and accelerators, and on-demand niche expertise.

Awards & Recognition



To know more

Visit the [Internet of Things](#) page on www.tcs.com

Email: TCS.IoT@tcs.com

Blog: [Engineering the future](#)

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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